up its institutions, promote all its great interests, and see whether we also in our day and generation may not perform something worthy to be remembered.'' That is what Daniel Webster said, and it is up on that wall.

This is an important vote. Are we not glad that our ancestors had the courage to say, we are going to allow people to take coal out of West Virginia, or iron ore out of pristine Northern Minnesota.

This is an historic vote. I hope we vote this amendment down and the bill up.

Mr. TAUZIN. Mr. Chairman, I yield 45 seconds to the gentleman from Colorado (Mr. UDALL), after whose father this refuge should be named.

Mr. UDALL of Colorado. Mr. Chairman, I thank my colleague for yielding me time.

Many have asked me about what my father would say, colleagues on both sides of the aisle, and I am here tonight to tell you he would support the Markey amendment.

But this is not about my father, it is about my children and their children.

□ 2230

It is about leaving them options in the future.

Barry Goldwater was asked if he had any regrets about the votes he cast in the Senate when he served here so admirably. He said, One vote, when I voted to dam the Glen Canyon area. He understood that you could not develop and preserve a wilderness area at the same time.

Let us not have any regrets. Let us remember what Teddy Roosevelt said about the Grand Canyon and that it also applies to the wildlife refuge, ''Man cannot improve on it. Let us leave it like the Creator envisioned it.''

On the question of whether to open the coastal plain, Congress is being asked to gamble on finding oil there. So, we first must decide what stakes we are willing to risk, and then weigh the odds.

The stakes are the coastal plain. The U.S. Fish and Wildlife Service says it ''is critically important to the ecological integrity of the whole Arctic Refuge'' which is ''America's finest example of an intact, naturally functioning community of arctic/subarctic ecosystems.''

What are the odds? Well, the best estimate is by the U.S. Geological Survey (USGS). In 1998 they estimated that if the price of oil drops to less than $16 per barrel (as it did a few years ago) there would be no economically recoverable oil in the coastal plain. At $24 per barrel, USGS estimated there is a 95 percent chance of finding 1.9 billion barrels of economically recoverable oil in the refuge's coastal plain and a 50 percent chance of finding 5.3 billion barrels.

But Americans use 19 million barrels of oil each day, or 7 billion barrels of oil per year. So, USGS is saying that at $24 per barrel, there is a 50 percent chance of finding several months' supply of oil in the coastal plain.

There is one 100 percent sure bet—drilling will change everything on the coastal plain forever. It will never be wilderness again. We do not need to take that bet. There are less-sensitive places to drill—and even better alternatives, including conserving energy and more use of renewable resources.

For example, fuel-efficiency standards for new cars and light trucks could feasibly be raised to more than 40 miles per gallon by 2010. Experts estimate that alone would save 10 times as much oil as would likely be extracted from the Arctic refuge over the next 30 years.

In short, when it comes to drilling in the Arctic National Wildlife Refuge, I think that the stakes are too high and the odds are too long—especially since we have better options. So I do not support it.

For the benefit of our colleagues, I attach excerpts from a recent article in Foreign Affairs by two Coloradans—Amory R. Lovins and L. Hunter Lovins. Founders and leaders of the Rocky Mountain Institute, they are recognized experts on energy issues.

The article, entitled ''Fool's Gold in Alaska,'' clearly shows that drilling for oil on the coastal plain does not make sense in terms of economics, national security, or environmental protection.

[FROM FOREIGN AFFAIRS, JULY/AUGUST 2001]

FOOL'S GOLD IN ALASKA

(By Amory B. Lovins and L. Hunter Lovins)

THE BOTTOM OF THE BARREL?

Oil prices have fluctuated randomly for well over a century. Heedless of this fact, oil's promoters are always offering opportunities that could make money—but on the flawed assumption that high prices will prevail. Leading the field of these optimists are Alaskan politicians. Eager to keep funding their state's de facto negative income tax—oil provides 80 percent of the state's unrestricted general revenue—they have used every major rise in oil prices since 1973 to advocate drilling beneath federal lands on the coastal plain of the Arctic National Wildlife Refuge. Just as predictably, environmentalists counter that the refuge is the crown jewel of the American wilderness and home to the threatened indigenous Gwich'in people. As some see it, drilling could raise human rights issues under international law. Canada, which shares threatened wildlife, also opposes drilling.

Both sides of this debate have largely overlooked the central question: Does drilling for oil in the refuge's coastal plain make sense for economic and security reasons? After all, three imperatives should shape a national energy policy: economic vitality, secure supplies, and environmental quality. To merit serious consideration, a proposal must meet at least one of these goals.

Drilling proponents claim that prospecting for refuge oil will enhance the first two while not unduly harming the third. In fact, not only does refuge oil fail to meet any of the three goals, it could even compromise the first two. First, the refuge is unlikely to hold economically recoverable oil. And even if it did, exploitation would only briefly reduce U.S. dependence on imported oil by just a few percentage points, starting in about a decade. Nor would the refuge yield significant natural gas. Despite some recent statements by the Bush administration, the North Slope's important natural-gas deposits are almost entirely outside the refuge. The gas-rich areas are already open to industry, and environmentalists would likely support a gas pipeline there, but its high cost—an estimated $10 billion—would make it seem uneconomical.

Furthermore, those who suppose that any domestic oil is more secure than imported oil should remember that oil reserves almost anywhere else on earth are more accessible and more reliably deliverable than those above the Arctic Circle. Importing oil in tankers from the highly diversified world market is arguably better for energy security than delivering refuge oil to other U.S. states through one vulnerable conduit, the Trans-Alaska Pipeline System. Although proponents argue that exploiting refuge oil would make better use of TAPS (which is all paid for but only half-full), that pipeline is easy to disrupt and difficult to repair. More than half of it is elevated and indefensible; in fact, it has already been bombed twice. If one of its vital pumping stations were attacked in the winter, its nine million barrels of hot oil could congeal into the world's largest Chapstick. Nor has the 24-year-old TAPS aged gracefully: premature and accelerated corrosion, erosion, and stress are raising maintenance costs. Last year, the pipeline suffered two troubling accidents plus another that almost blew up the Valdez oil terminal. If TAPS were to start transporting refuge oil, it would start only around the end of its originally expected lifetime. That one fragile link, soon to be geriatric, would then bring as much oil to U.S. refineries as now flows through the Strait of Hormuz—a chokepoint that is harder to disrupt, is easier to fix, and has alternative routes.

Available and proven technological alternatives that use energy more productively can meet all three goals of energy policy with far greater effectiveness, speed, profit, and security than can drilling in the refuge. The untapped, inexpensive ''reserves'' of oil-efficiency technology exceed by more than 50 times the average projection of what refuge drilling might yield. The existence of such alternatives makes drilling even more economically risky.

In sum, even if drilling in the Arctic Wildlife Refuge posed no environmental or human rights concerns, it still could not be justified on economic or security grounds. These reasons remain as compelling as they were 14 years ago, when drilling there was last rejected, and they are likely to strengthen further with technological advances. Comparing all realistic ways to meet the goals of national energy policy suggests a simple conclusion: refuge oil is unnecessary, insecure, a poor business risk, and a distraction from a sound national debate over realistic energy priorities. If that debate is informed by the past quarter-century's experience of what works, a strong energy policy will seek the lowest-cost mix of demand- and supply-side investments that compete fairly at honest prices. It will not pick winners, bail out losers, substitute central planning for market forces, or forecast demand and then plan capacity to meet it. Instead, it will treat demand as a choice, not fate. If consumers can choose optimal levels of efficiency, demand can remain stable (as oil demand did during 1975–91) or even decline—and it will be possible to provide secure, safe, and clean energy services at the lowest cost. In this market-driven world, the time for costly refuge oil has passed.

From 1979 to 1986, GDP grew 20 percent while total energy use fell by 5 percent. Improved efficiency provided more than five times as much new energy service as the vaunted expansion of the coal and nuclear industries; domestic oil output rose only 1.5 percent while domestic natural gas output fell 18 percent. When the resulting glut slashed energy prices in 1985–86, attention strayed and efficiency slowed. But just in the past five years, the United States has quietly entered a second golden age of rapidly improving energy efficiency. Now, with another efficiency boom underway, the whole cycle is poised to repeat itself—threatening another energy-policy train wreck with serious economic consequences.